AOR®

AR8600 Mark2 ADDENDUM (paperwork V1.1)

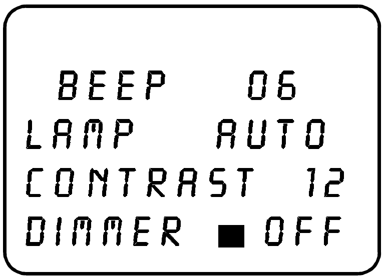
Due to continuous development of our products, the AR8600 has been enhanced in several areas. The upper frequency range has been extended to 3.0GHz (3000MHz), lower band sensitivity has been increased (now officially covering to 100kHz) with an enhancement to short wave performance by the addition of further bandpass filters and selection of alternative I.F. filters. Mini-Circuits RMS1 / RMS2 mixers have been employed with active SPM aerial switching devices (not diode-switching) abundantly employed throughout the signal path. The AR8600 Mark2 provides remarkable short wave performance, making other similar wide band competitors mediocre by comparison. However daily operation of the AR8600 Mark2 is largely unaffected, just a few operational changes need be noted.

- An LCD / keypad illumination (lamp) dimmer has been added
- The LCD / keypad illumination can be squelch activated
- The rear panel ACC configuration has been amended with audio out now being squelch controlled
- The calibration of SCAN / SEARCH LEVEL has been changed

The following comparison chart between the AR8600 and AR8600 Mark2 provides cross referencing to the specific page numbers of the operating manual:

Item	**AR8600**	**AR8600 Mark2**	**Page number**
Frequency coverage	530kHz - 2040MHz	100kHz - 3000MHz	P.143
Lamp dimmer	not available	added	P.106 - 107
Squelch operated lamp	not available	added	P.106 - 107
ACC socket Pin 6 & 7	audio not squelch controlled	audio squelch controlled with mute	P.8
ACC socket Pin 4 & 5	Tape motor switching contact	Not used as audio is squelch controlled	P.8
Scan / Search - LEVEL	available	revised calibration	P.68 - 69

LAMP DIMMER



There are now effectively three states of LAMP, lamp off / lamp on / dimmer on. While the lamp is bright for daily operation, in areas of permanent low lighting, it is nice to dim the lamp. An additional line has been added to the CONFIG MENU, 'DIMMER' with a value of OFF or ON, the default is OFF. To access the CONFIG menu PUSH☞ (FUNC) PUSH☞ (7 GQ). The first item in the config menu is "BEEP". PUSH☞ ⇩to move the cursor to the line marked "DIMMER". Use the main dial or ⇦ ⇨ keys to toggle the DIMMER ON / OFF. The (PASS) key may be used as a short cut to OFF.

PUSH☞ (ENT) to accept the data and return to a standard display. Alternatively PUSH☞ (CLEAR) to abort entry or PUSH☞ ⇩ to move to the next item on the config menu. Refer to pages 106 - 107 of the operating manual.

SQUELCH OPERATED LAMP

When the lamp is set to AUTO, the lamp will illuminate when the squelch opens. In AUTO mode, the lamp illuminates either when the keypad is operated or when a signal opens the squelch, after a few seconds the lamp will switch off. There may be an audible 'click' under some circumstances when the lamp automatically switches on and off.
Refer to pages 106 - 107 of the operating manual.

INNOVATION & EVOLUTION

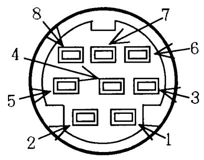
REASSIGNMENT OF ACC SOCKET

The AR8600 Mark2 provides squelch controlled audio output to pins 6 & 7 of the rear panel ACC connector. For this reason, pins 4 & 5 no-longer have relay controlled squelch switching.

The audio output and detector levels have been revised.

Refer to page 8 of the operating manual.

ACC connections



1 5V d.c. output
max current 30mA
2 Detector output
50mV @ 100k OHMS
3 N/C
4 N/C
5 N/C
6 High level audio output 300mV @ 600 OHMS
7 Low level audio output 30mV @ 600 OHMS
8 Ground

CR5000 tape lead

The optional tape connecting lead CR5000 may still be used as switched audio will be provided via the 3.5mm mono jack plug of the lead, however the 2.5mm mono jack plug previously used for tape motor switching is no-longer used.

SCAN / SEARCH - LEVEL SQUELCH

The relationship between level squelch and signal meter has been revised. This affects VFO SEARCH LEVEL SQUELCH (page 47 section 4-4-3 of the operating manual), SCAN LEVEL SQUELCH (page 68 section 7-8-2 of the operating manual) and PROGRAM SEARCH LEVEL SQUELCH (page 84 section 8-7-2 of the operating manual).

In each case, the following table replaces that previously employed:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
4	7	12	16	19	23	28	30	35	39	43	47	51	54

The typical level at which the "★" legend will be extinguished is now in the region of 3 - 45.

I.F. OUTPUT for spectrum display operation

The I.F. output is already activated on standard stock units for reception of WFM, please contact your supplier if you require the I.F. output in all modes. **Note:** As the 34.35MHz oscillator of the WFM circuit is used to produce the 10.7MHz I.F. output, activation in ALL MODES increases the number of internal spurii produced by the AR8600 / AR8600 Mark2.

The I.F. output of the AR8600 / AR8600 Mark2 is +/- 2MHz (bandwidth 4MHz total). When used in conjunction with the SDU5500 spectrum display unit, the SDU5500 should be set to OTHER radio and used as a 'passive' bandscope. The SDU5500 will not support the AR8600 / AR8600 Mark2 as a specific 'active' radio type.

TUNING STEP SIZE & AUTO BANDPLAN

As the AR8600 Mark2 will tune to a lower receive frequency of 100kHz (0.1MHz), it is necessary to consider the tuning step size to prevent anomalies occurring. It is important that the tuning step is SMALLER than the receive frequency... for example, if you have a receive frequency of 100kHz, the tuning step should be set to 50kHz or something more appropriate such as 9kHz or 10kHz, if receiving 200kHz then the tuning step size should be set to 100kHz or something more appropriate such as 9kHz or 10kHz. This is very important when a PROGRAM SEARCH or VFO SEARCH is carried out. Ideally the receive frequency should be divisible by the tuning step, resulting in a round number greater then one 500kHz / 10kHz = 50, okay. When the receive frequency is greater than 1MHz, no anomaly will be created as the maximum tuning step size is always smaller than 1MHz.

The auto bandplan data may be modified using the AOR WORKSHOP PC software, this is available as a free download from the AOR web sites (you will require an optional standard RS232 cable)

NOTE WHEN USING HEADPHONES

When using HEADPHONES, it is recommended that the KEYPAD BEEP be reduced to a level of 1 or disabled from the CONFIG menu... the BEEP level has been set as a confirmation tone for noisy mobile environments - it sounds very loud when using headphones, caution is required.

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